



<b>FEATURE:</b>		<b>PROJECT:</b>	
Klamath River Dams Removal Partial Removal Option Copco No. 1 Dam & Powerplant Removal Most Probable High Life Cycle - 50 Year Summary		Klamath River Oregon	
<b>WOID:</b> AF652		<b>ESTIMATE LEVEL</b> Feasibility	
<b>REGION</b> MP		<b>UNIT PRICE LEVE</b> Jul-10	
<b>FILE:</b>		U:\2011 Projects\Klamath\007 Crystal Ball\Klamath Summary Cost Sheet_122310.xls\MPL_MP_MPH_Full	

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		Periodic Costs - Year 1					\$109,300.00
		Periodic Costs - Year 5					\$43,628.33
		Periodic Costs - Year 10					\$35,644.50
		Periodic Costs - Year 13					\$11,529.77
		Periodic Costs - Year 15					\$29,121.69
		Periodic Costs - Year 20					\$23,792.37
		Periodic Costs - Year 25					\$26,537.06
		Periodic Costs - Year 30					\$15,881.69
		Periodic Costs - Year 35					\$12,975.13
		Periodic Costs - Year 38					\$4,196.99
		Periodic Costs - Year 40					\$10,600.97
		Periodic Costs - Year 45					\$8,660.95
		Periodic Costs - Year 50					0.00
		Annual Costs - Maintenance					\$1,514,164.00
		(Assumes gov't service / construction contracts)					
		<b>Subtotal 1</b>					<b>\$1,846,033.45</b>
		Mobilization	5%	+/-			\$92,000.00
		<b>Subtotal 1 with Mobilization</b>					<b>\$1,938,033.45</b>
		Escalation to Notice to Proceed (NTP): from Unit Price Level (July, 2010) to NTP (July, 2020)					\$1,035,865.55
		at 4.375% per year for 120 months.					
		<b>Subtotal 2 = Subtotal 1 with Mobilization + Escalation to NTP</b>					<b>\$2,973,899.00</b>
		Design Contingencies	15%	+/-			\$457,701.00
		<b>Subtotal 3 = Subtotal 2 + Design Contingencies</b>					<b>\$3,431,600.00</b>
		Allowance for Procurement Strategies (APS)	2.0%	+/-			\$68,400.00
		Type of solicitation assumed is: Selective Request for Proposal					
		<b>Subtotal 4 = Subtotal 3 + APS</b>					<b>\$3,500,000.00</b>
		<b>CONTRACT COST</b>					<b>\$3,500,000.00</b>
		Construction Contingencies	25%	+/-			\$900,000.00
		<b>FIELD COST</b>					<b>\$4,400,000.00</b>
		Non-Contract Costs	35%	+/-			\$1,500,000.00
		(Environmental Cultural / Mitigation ~ 10%, Engineering Design ~ 7%, Maintenance Service Contract ~ 5% Procurement ~ 2%, Inspections ~ 10% and Closeout ~ 1%)					
		<b>CONSTRUCTION COST</b>					<b>\$5,900,000.00</b>

Ref.: For appropriate use and terminology, see Reclamation Manual, Directives and Standards FAC; 09-01, 09-02 and 09-03.

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY <i>Greg Akins</i> Greg Akins	CHECKED <i>Shamir</i> Shamir
DATE PREPARED 03/24/11	PEER REVIEW / DATE Tom Hepler P.E. 3/25/11	DATE PREPARED 6/9/11	PEER REVIEW / DATE 6/13/11

<b>FEATURE:</b>  Klamath River Dams Removal Partial Removal Option Copco No. 1 Dam & Powerplant Removal Most Probable High  Life Cycle - 50 Year Operation and Maintenance - Initial Capital Costs			<b>PROJECT:</b>  Klamath River Oregon <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;"><b>WOID:</b> AF652</td> <td style="width:33%;"><b>ESTIMATE LEVEL:</b> Feasibility</td> </tr> <tr> <td><b>REGION:</b> MP</td> <td><b>UNIT PRICE LEVEL:</b> Jul-10</td> </tr> </table> <b>FILE:</b> U:\2011 Projects\Klamath\002 Completed Sheets\MP MPL MPH\01 - Copco 1\MPH\Copco 1 MPH - Probable.xlsx\Life Cycle Summary					<b>WOID:</b> AF652	<b>ESTIMATE LEVEL:</b> Feasibility	<b>REGION:</b> MP	<b>UNIT PRICE LEVEL:</b> Jul-10
<b>WOID:</b> AF652	<b>ESTIMATE LEVEL:</b> Feasibility										
<b>REGION:</b> MP	<b>UNIT PRICE LEVEL:</b> Jul-10										
PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT				
	1	Furnish, install, and maintain a 7-foot-high chain link fence along the west side of the powerhouse (assume two double 12ft wide gates for vehicle access) (assume replace one time)	86-68130	300	lf	\$50.00	\$15,000.00				
	2	Repaint exposed portion of penstocks and vertical vents (Assume repaint 5 times) <i>Estimate assume minor existing ("lead") paint repair during recoating ~ 2% area</i>	86-68130	8,900	ft2	\$4.00	\$35,600.00				
	3	Remove paint on east side of powerhouse (assume paint contains heavy metals)	86-68130	1,300	ft2	\$24.00	\$31,200.00				
		<b>LIFE CYCLE SUBTOTAL</b>					<b>\$81,800.00</b>				
<b>QUANTITIES</b>			<b>PRICES</b>								
<b>BY</b> Rick Benik		<b>CHECKED</b> Stephen Latham		<b>BY</b>  Greg Akins		<b>CHECKED</b>  Shamir 5/4/11					
<b>DATE PREPARED</b> 03/21/11		<b>PEER REVIEW / DATE</b> Tom Hepler P.E. 3/24/11		<b>DATE PREPARED</b> 5/4/11		<b>PEER REVIEW / DATE</b> DOD 5/4/11					

## FEATURE:

Klamath River Dams Removal

Partial Removal Option

Removal Site Maintenance

Most Probable High

Life Cycle - 50 Year

Operation and Maintenance - Periodic Costs

## PROJECT:

Klamath River

Oregon

WOID: AF484

ESTIMATE LEVEL: Feasibility

REGION: MP

UNIT PRICE LEVEL Jul-10

## FILE:

U:\2011 Projects\Klamath\002 Completed Sheets\MP MPL MPH\01 - Copco 1\MPH\Copco 1 MPH - Probable.xlsx\O&amp;M

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Site Maintenance - Annual: Copco 1 Site only*		1	LS	\$72,000.00	\$72,000.00
		Labor needed per year	86-68130	150	mdy**		
		3-Man maintenance crew					
		6 Months active inspection/maintenance					
		2 Weeks full time (1 month each spring)					
		4 Full days, 2 times each month (5 months)					
		Site maintenance required at JC Boyle, Copco 1 & Copco 2					
		Estimate prorated the time at each dam site based on percent of total partial removal construction costs					
		Equipment needed per year	86-68130	50	dy***		
		1-Service truck					
		Includes compressor, welder, generator and general tools					
		Estimate prorated the time at each dam site based on percent of total partial removal construction costs					
		Materials needed per year (percentage of labor & equipment)	86-68130	15%			
		Road maintenance needed per year (percentage of labor & equipment)	86-68130	10%			
		*Total estimated cost for all 3 sites is approximately \$462,000 annually: prorated $\pm$ 15% for the Copco 1 site only					
		** Man days per year for 50 years					
		***Days per year for 50 years					
		<b>SUBTOTAL THIS SHEET</b>					<b>\$72,000.00</b>

## QUANTITIES

## PRICES

BY Rick Benik	CHECKED Stephen Latham	BY <i>Greg Akins</i> Greg Akins	CHECKED <i>Steven McFarland</i> 5/4/11
DATE PREPARED 04/18/11	PEER REVIEW / DATE Tom Hepler P.E. 4/18/11	DATE PREPARED 5/4/11	PEER REVIEW / DATE <i>DCD</i> 5/4/11